

IN THE UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF TEXAS
DALLAS DIVISION

OLLIE GREENE, Individually as the §
Surviving Parent of WYNDELL GREENE, §
SR., et al., §

CASE NO.: 3:11-CV-00207-N

Plaintiffs, §

vs. §

JURY TRIAL DEMANDED

§
TOYOTA MOTOR CORPORATION §
et al., §

Defendants. §

**DEFENDANT VOLVO GROUP NORTH AMERICA, LLC'S
BRIEF IN SUPPORT OF ITS MOTION TO EXCLUDE THE TESTIMONY
AND EVIDENCE OF PLAINTIFFS' EXPERT KIETH FRIEDMAN**

Respectfully submitted,



Randy Howry
State Bar No. 10121690
rhowry@howrybreen.com
John Carlson
State Bar No. 00790426
jcarlson@howrybreen.com

HOWRY BREEN & HERMAN, LLP
1900 Pearl Street
Austin, Texas 78705
Phone: (512) 474-7300
Fax: (512) 474-8557

**ATTORNEYS FOR DEFENDANT VOLVO
GROUP NORTH AMERICA, LLC f/k/a
VOLVO TRUCKS NORTH AMERICA**

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I. SUMMARY OF MOTION & BRIEF

The plaintiffs have designated Keith Friedman as their jack-of-all-trades expert. He is seeking to offer expert opinions involving passenger car, heavy truck and trailer design – issues ranging from crashworthiness to fires and fuel systems to rear underride guards to radar systems to regulatory compliance with trucking rules. Plaintiffs plan on proffering this single witness to support over ten separate defect allegations relating to three disparate vehicles – an SUV, a heavy truck, and a trailer – against five separate defendants.

Friedman has investigated this crash since November 2010. He has been paid over a half million dollars so far for his work. This half-million dollar project resulted in four self-labeled “**PRELIMINARY**” reports from Friedman in November 2013 that contain mainly conclusory statements and almost no substance or detail. Despite his three-year, half-million dollar effort, Friedman expressly refused to concede the obvious in his deposition: that Charles Moody, the driver of the tractor-trailer that hit the Greene family’s SUV, who ultimately pled guilty to criminally negligent homicide, was responsible, at least in part, for the accident. An expert who spent three years investigating the accident and who has opined on more than ten alleged defects in three vehicles, as well as alleged violations of federal trucking rules, but who has “no opinion” (*see* APP 0094) as to the negligence of a driver who the plaintiffs’ own reconstructionist opines had a closing speed at impact with the rear of the Greene SUV of “35 to 45 mph” clearly lacks credibility. Friedman’s testimony and evidence should be excluded, for a number of reasons.

First, Friedman’s reports and disclosures were wholly deficient under FRCP 26 and federal law. His “**preliminary**” Volvo report, which is dated November 14, 2013 and was served on VGNA’s counsel on November 20, 2013, was not accompanied by the production or disclosure of any other materials and has never been supplemented. Under Rule 26,

“preliminary” expert reports are improper and do not support the admissibility of the opinions purported to be expressed therein. The threadbare report is really nothing more than a literature review coupled with some conclusory opinions. None of these conclusory opinions are tied to the facts of *this case or crash*. The Federal Rules require “detailed” and “complete” reports; “sketchy” reports like Friedman’s do not satisfy the rules. Friedman’s disclosures were also insufficient and untimely. He produced no supporting documents or finite element (FE) information or data of any kind from his file until halfway into his oral deposition; some of the key documents and FE modeling he appears to be relying on were never even mentioned in his report as items he reviewed or “considered.” Plaintiffs and Friedman have failed to even minimally comply with the Rule 26 report and disclosure requirements.

Second, Friedman lacks the qualifications to offer expert opinions regarding the Volvo tractor. He has no meaningful experience regarding heavy truck brake systems, heavy truck front-end design, or radar-based collision warning systems. While he may be qualified to testify as an expert in other areas regarding passenger vehicles, he lacks the necessary opinion-specific qualifications under FRE 702 to support the proffered opinions against Volvo.

Third, Friedman’s opinions are not reliable under *Daubert* and FRE 702. He has applied no discernable methodology other than a crass “*ipse dixit*” approach (“it is because I said it is so”), and there is nothing case-specific or crash-specific about his conclusions. The “analytical gap” here is more accurately described as an “analytical canyon.”

Finally, Friedman’s opinions do not satisfy the relevancy requirements of *Daubert* and FRE 702. Several defects he alleges regarding the Volvo tractor – disc instead of drum brakes; absence or deficiency of an “adaptive cruise control” system; and absence or deficiency of an automatic braking system – are not and have never even been pleaded in this case. He also

opined in his deposition that the lack of a “FUPD” (frontal underride protection device) on the Volvo tractor was a defective design even though his *own* file materials, which were produced for the first time only halfway through his deposition and are not referenced in his report as something he “considered” under FRCP 26, show no underride/override.

Friedman’s report, opinions and testimony regarding the Volvo tractor couple “junk science” with insufficient and untimely disclosures. They should be excluded.

II. ARGUMENT AND AUTHORITIES

A. Background

1. The Collision and the Parties.

This case arises from a multiple-vehicle collision on I-20 near Terrell, Texas on May 28, 2010. The Greene family – Wyndell Sr., LaKeysha and their two children, Wesleigh and Wyndell II – were riding in a Toyota 4Runner that had slowed or stopped because the traffic in front of them had stopped. The Greens’ 4Runner was struck from behind by a tractor-trailer that was traveling at highway speed. The 4Runner was first pushed into a Toyota Corolla, and then collided with the rear of another tractor-trailer. Five-year-old Wesleigh and two-year old Wyndell II died during the collision. LaKeysha was ejected from the passenger seat and died at the scene as well. Wyndell Sr., who was driving, suffered burns and other injuries. He died about three months later.

The plaintiffs in this case are relatives of the Greene family (Wyndell Sr.’s mother, Ollie Greene, and LaKeysha’s mother, Marilyn Burdette Hardeman) and the administrator of Wyndell Sr.’s estate (Wyndell Sr.’s brother William Greene). Each of these three plaintiffs asserted a variety of claims and causes of action – primarily product liability claims – against five defendants in connection with the deaths of the members of the Greene family. These defendants are: (1) Toyota, which made the 4Runner; (2) Volvo (VGNA), which made the

tractor that struck the Greene vehicle; (3) Strick, which made the trailer that the Greene vehicle struck; (4) Dolphin, the owner of the trailer that the Greene vehicle struck; and (5) Fayard, the operator of the tractor-trailer that the Greene vehicle struck. Keith Friedman is the principal liability expert for the plaintiffs, providing testimony on multiple alleged defects against *all five* defendants and their vehicles.

2. The Plaintiffs' Allegations Regarding the Volvo Tractor.

The plaintiffs have pleaded three theories of “design, manufacturing and/or marketing” defects in the Volvo tractor: (1) an “absent or defective collision warning system”; (2) “ineffective energy-absorption capabilities; and (3) “the Tractor was defectively designed because it was incompatible, in a crash, with other vehicles on the road...”. PLAINTIFFS’ SECOND AM. COMPL. (Docket #113) at ¶58; *see also* PLAINTIFFS’ FIRST AM. COMPL. (Docket #26) at ¶58. That is the extent of the detail in their pleadings vis-à-vis any alleged defects.

Plaintiffs have not (and have never) pleaded any allegations of defect regarding the Volvo tractor’s brakes or braking system. They have never alleged any defect regarding “adaptive cruise control” or “advanced braking systems.” Also, no causes or claims have been made on behalf of the estates of LaKeysha Greene or the Greene children – by a court-appointed personal representative of those estates or otherwise. *See generally id.*

3. Plaintiffs’ Designation of Keith Friedman; Friedman’s “Volvo Report”.

Plaintiffs filed their notice of service of expert disclosures on November 20, 2013 – identifying “Keith Friedman and Dr. R Rhoads Stephenson, Friedman Research Corporation” as testifying experts. (Docket #244) The notice did not indicate what these or the other experts listed would testify about. On the same day, they served copies of their experts’ reports – including one entitled “Greene vs. Volvo NA, et al. – **Preliminary** Crashworthiness Report” that was dated November 14, 2013 (emphasis added). (APP 0001-76) They did not disclose,

produce or provide any calculations, data or other file materials from either Friedman or Stephenson until January 15, 2014 – midway through the first day of Friedman’s deposition – when they brought 17 bankers boxes to the conference room. (APP 0086; APP 0458) Buried in these 17 boxes were 29 CDs/DVDs that included (in a format not viewable at the deposition) “finite element” (FE) modeling and data that is not mentioned anywhere in Friedman’s report. (APP 0458)

The Friedman “Volvo report” was jointly signed by both Friedman and Stephenson. (*See* APP 0036) It does not state who did what work, who reviewed or considered what materials, who was sponsoring which opinions, etc.¹ The “Discussion” section of the report contains subsections about “braking,” “compatibility” and “radar”; it does not have an “energy absorption” subsection. (*See* APP 0026-34) As discussed throughout this brief, the report is largely just a literature review coupled with some conclusory opinions and statements that are not tied to the facts of this case and crash. Nowhere in the report do Friedman and Stephenson opine that the tractor was unreasonably dangerous (as the law requires) or refer to any risk-utility analyses they performed.

The plaintiffs retained Friedman in November 2010. (APP 0089) He had worked on this file for three years before producing his “preliminary” report, and been paid over a half million dollars. (APP 0101) As of the date of the filing of this motion, Friedman’s “preliminary” report has never been supplemented by Plaintiffs.²

¹ It became clear in Stephenson’s deposition that Stephenson, a fire investigator, served no role other than as an editor of the report. VGNA is moving to exclude Stephenson’s testimony in a separate motion.

² Plaintiffs served three other “preliminary” “Friedman reports” at the same time directed at the other defendants – “Green v. Strick, et al.”; “Greene v. Fayard, Dolphin et al.”; and “Greene vs. Toyota.” These reports were also all jointly signed by Friedman and Stephenson. None say who did what. None of these “Preliminary” Friedman reports have ever been supplemented by Plaintiffs.

B. Friedman’s “Preliminary” Report and Disclosures Were Neither Timely Nor Sufficient

1. “Preliminary” Reports and Opinions Do Not Satisfy the Federal Rules.

Rule 26(a)(2)(B) states, “The [expert] report must contain: (i) a complete statement of all opinions to be expressed and the basis and reasons for them; (ii) the facts or data considered by the witness in forming them; (iii) any exhibits that will be used to summarize or support them; ...” FED. R. CIV. P. 26(a)(2)(B); *see also Adkins Adjustment Serv. v. Vision Claim Service*, 2001 U.S. Dist. LEXIS 5624, *4 (N.D. Tex. 2001). Additionally, Rule 26(e)(1) requires that the expert's disclosure be supplemented if there are any additions or changes to the information previously disclosed. FED. R. CIV. P. 26(e)(2).

An expert's report must be “detailed and complete” in order to “avoid the disclosure of sketchy and vague expert information.” *Sierra Club, Lone Star Chapter v. Cedar Point Oil Co., Inc.*, 73 F.3d 546, 571 (5th Cir. 1996). “Preliminary reports do not satisfy the express terms of Rule 26.” *Brumley v. Pfizer, Inc.*, 200 F.R.D. 596, 600 (S.D. Tex. 2001) (*Sherrod v. Lingle*, 223 F.3d 605, 612 (7th Cir. 2000)). Friedman’s “preliminary” Volvo report – which has never been supplemented – as well as any testimony Friedman intends to proffer based on the report, are improper and should be excluded.

2. The Disclosures Regarding Friedman Were Also Untimely and Inadequate.

The Friedman “Volvo report” is not “detailed and complete,” as Rule 26 requires, and is exactly the “sketchy and vague” sort of expert report that the Fifth Circuit said should be avoided. *Sierra Club, Lone Star Chapter, supra*, at 571. According to Rule 26(a), “a report must be complete such that opposing counsel is not forced to depose an expert in order to avoid an ambush at trial; and moreover the report must be sufficiently complete so as to shorten or decrease the need for expert depositions and thus to conserve resources.” *Beane v. Utility Trailer*

Manufacturing Co., 934 F. Supp. 2d 871, 877 (W.D. La. 2013). “Expert reports must include ‘how’ and ‘why’ the expert reached a particular result, not merely the expert's conclusory opinions.” *Id.*

Despite his three-year, half-million dollar engagement, Friedman’s “Volvo report” contains no specific alternative designs, drawings or diagrams for any “FUPD,” an “airbag collision mitigation system” or any other “compatibility” or energy absorption feature. There are no references to any case-specific testing, modeling, simulations, calculations, or risk-utility or cost analyses. The opinions expressed in the report – such as “The VORAD or other radar systems could have been utilized to alert the driver of the slowing of the traffic ahead” (APP 0027) and “A collision mitigation system utilizing deployable systems or static energy absorbing systems could have been utilized to expand the effective crush space available on the Volvo” (*Id.*) – are purely conclusory. The insufficiency of the report, the late disclosures, and the surprise document dump at Friedman’s deposition are particularly disturbing since he is a seasoned federal court expert – having testified in federal court on numerous occasions and having provided expert reports in many federal courts. (APP 0081) This is precisely the “surprise testimony” and “manipulative conduct designed to thwart the expert disclosure and discovery process” that courts should be vigilant to preclude. *Kallassy v. Cirrus Design*, 2006 LEXIS 34347, *6 n.3 (N.D. Tex. May 30 2006), *aff’d* 265 Fed. Appx. 165 (5th Cir. 2008).

The Toyota defendants have filed a “Motion to Exclude Untimely Disclosed File Materials and Data of Plaintiffs’ Experts Keith Friedman and Rhoads Stephenson” (Docket #380), together with a brief (Docket #381) and appendix (Docket #382) in support of that motion. The brief contains a detailed discussion regarding Plaintiffs’ failure to timely or adequately disclose data and other information pertaining to the four “Friedman reports,” as well

as a discussion of the applicable law. VGNA (which will be filing a separate motion to join in the Toyota defendants' motion to exclude) incorporates Toyota's motion, brief and appendix herein.

C. Friedman's Testimony Regarding Any Alleged Brake Deficiencies and Alternative Brake Designs Should Be Excluded

1. No brake defect has ever been alleged. Friedman's opinions on the tractor's brakes and brake design "non-helpful" and not relevant to this case.

In *Daubert*, the Supreme Court explained that FRE 702 "requires that the evidence or testimony 'assist the trier of fact to understand the evidence or to determine a fact in issue.'" *Daubert v. Merrill Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 591 (1993). "Expert testimony which does not relate to any issue in the case is not relevant and, ergo, non-helpful." *Id.* An expert's opinion should not be admitted if it does not apply to the specific facts of the case. *Kumho Tire Co. v. Carmichael*, 526 U.S.137, 154 (1999).

In this case, the plaintiffs have pleaded three defects in the Volvo tractor – energy absorption, crash compatibility, and absence of a CWS – none of which even remotely imply an allegation of defective brakes. PLAINTIFFS' SECOND AM. COMPL. (Docket #113) at ¶58. Prior to the Friedman "Volvo report" being served on November 20, 2013, there had never been any discovery regarding – or even a passing mention of – any alleged deficiencies with the brakes on the Volvo tractor.³ Then, out of the blue, the Friedman "Volvo report" alleges (in two paragraphs) that the Volvo tractor "should have been equipped with a better braking system" – employing disc brakes instead of drum brakes. (APP0023-24)

³ The Friedman "Volvo report" alleges "Volvo failed to produce any braking tests of its own or even the braking tests that we know were done." (APP 0026) This allegation is specious: Plaintiffs never even requested any such tests in discovery or anything else related to brakes or braking systems (for the subject tractor or heavy trucks in general).

Notably, the report does not actually assert that the brakes on the tractor were *defective* or *unreasonably dangerous*, nor does it state that these brakes were not compliant with FMVSS 121 (the federal performance standard for heavy truck brakes) because they *were*. (APP 0451) It contains no brake opinion specific to the facts of this case and crash, no specific alternative brake design, and no references to any case-specific testing, modeling, simulations, calculations or risk-utility analysis. Nothing at all was produced or disclosed with the report. Instead, this “opinion” is based solely on a cursory summary of one 2005 report. (APP0026)

Because there have been no brake claims pled by the plaintiffs and because Freidman was unable or unwilling in his report and deposition (*see* APP 0122) to state that the brakes on the subject vehicle were defective or unreasonably dangerous, any testimony or evidence regarding allegedly deficient brakes or alternative brake designs are not relevant and should be excluded.

2. Friedman is also not qualified under to give expert testimony on any alleged brake defects or heavy truck brake design.

An expert’s qualifications must be relevant to the issues in a case. *Seitz v. Envirotech Sys. Worldwide Inc.*, 2008 U.S. Dist. LEXIS 17395, **14-15 (S.D. Tex. Mar. 6, 2008); *see Smith v. Goodyear Tire & Rubber Co.*, 495 F.3d 224, 227 (5th Cir. 2007) (finding that a polymer scientist was not qualified to give an expert opinion in a tire malfunction case); *Wilson v. Woods*, 163 F.3d 935, 938 (5th Cir. 1999) (excluding expert based on lack of qualifications); *Hammond v. Coleman Co., Inc.*, 62 F.Supp.2d 533, 541 (S.D. Miss 1999) (same).

Friedman freely admits that he is not an expert in brake system design, and his resume does not reflect any relevant brake-related experience. (APP 0134; APP 0058-69) Although he claims to have designed braking systems “in the sense of, you know, what is the effect of incorporating a braking system on a given vehicle,” he has never actually designed heavy truck brakes. (APP 0092) Nor has he ever tested either drum brakes or disc brakes. (APP 0124)

Friedman is simply not qualified to give opinions regarding heavy truck brakes or brake system design, and his opinions relating to disc-versus-drum brakes should be excluded accordingly.

3. Friedman's opinions on heavy truck brakes and brake design are also not reliable.

While Texas substantive law governs liability in this case, the Federal Rules of Evidence control the admissibility of the expert testimony. *Mathis v. Exxon Corp.*, 302 F.3d 448 (5th Cir. 2002). The Supreme Court explained in *Daubert* that any scientific testimony or evidence admitted must be both relevant and reliable. *Daubert*, 509 U.S. at 579; *Diggs v. Citigroup, Inc.*, 2014 Tex.App. LEXIS 506, **4-5 (5th Cir. Jan. 8, 2014). *Daubert* held that when expert testimony is offered, the trial judge must perform a screening function to ensure that the expert's opinion is reliable and relevant to the facts at issue in the case. *Daubert*, 509 U.S. at 579. Reliability under FRE 702 is tested via a three factor test: “(1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case.” *Kallassy*, 2006 LEXIS 34347 at n.2.

In his deposition, Friedman refused to testify that drum brakes in general, or that the drum brakes on the subject tractor, were defectively designed – testifying instead on the virtues of disc brakes. (APP 0122) He ultimately answered “no” to the question of whether a truck using drum brakes has defective brakes. (*Id.*) He said he did not perform any tests or any calculations on how disc brakes would have performed on the subject tractor. (APP 0124) He also could not point to any facts or data to show how disc brakes – as opposed to drum brakes – would have affected the outcome of this accident. He performed no case-specific calculations⁴;

⁴ Friedman was also unable to refute the calculations and opinions of VGNA's expert, Tim Cheek, that disc brakes would have made no difference in the outcome of this accident. (APP 0132; *see* APP 0407-22) He also had no idea whether Charles Moody, the driver of the Volvo tractor, had fully applied the tractor's drum brakes in the accident (APP 0124), when, in fact, the plaintiffs' own

instead, Friedman only claimed that he “explored the various braking effects,” but admitted outright that he “didn’t go up to the maximum capability” of the brakes. (APP 0124)

Friedman’s opinions on heavy truck brakes are unreliable and should be excluded.

D. Friedman’s Testimony and Opinions on “Lack of Energy-Absorption” Defects and Alternative Energy-Absorbing Designs Should be Excluded

1. Friedman is not qualified under *Daubert* and the Federal Rules to give expert testimony on front-end design or energy-absorbing capabilities of heavy trucks.

Friedman lacks the qualifications to opine about heavy truck front-end defects or alternative designs. Other than this case, the only experience he purportedly has in heavy truck design involves designs relating to protection of the driver of a heavy truck – not front-end design. (APP 0089) He has never worked for a company designing or manufacturing heavy trucks, let alone front ends of heavy trucks. (APP 0058-69) He has no experience with frontal underride protection devices – FUPD’s⁵, his proposed alternative – before or outside this case. (APP 0140) He has never created a real-world FUPD. (*Id.*) He claims to have created a “virtual” FUPD in this case, yet he has failed to produce any evidence of it (and it is not even mentioned in his report). (*Id.*) The only time Friedman has ever seen a FUPD in person was in Europe “[j]ust generally on vehicles as they drove around.” (*Id.*) He has never tested FUPD’s, although he does claim to have seen tests on cab-over vehicles primarily used in Europe (as opposed to “conventional” trucks, the type of trucks typically used in the United States and the type of tractor at issue in this case). (*Id.*)

Similarly, as discussed below, all of his experience with a theoretical frontal “airbag system” was performed during this case and for this case. (APP 0138)

reconstruction expert, Jeff Vick, concluded that Moody had only partially applied the brakes up until the point of initial impact with the 4Runner. (APP0148 & 0150)

⁵ FUPD’s are sometimes also referred to as “FUPS” in the case materials.

2. Friedman's opinions on front-end design and energy-absorbing capabilities of heavy trucks are not reliable.

Even if Friedman was qualified to offer expert testimony regarding heavy truck front-end designs and energy-absorbing capabilities (he is not), he could only offer specialized or technical opinion evidence (1) based on “sufficient facts or data”; (2) which is “the product of reliable principles and methods”; and (3) when “the expert has reliably applied [those] principles and methods to the facts of the case.” *Roman v. Western Mfg.*, 691 F.3d 686, 692 (5th Cir. 2012).

The Friedman “Volvo report” is, charitably speaking, cryptic regarding any proposed safer alternative “energy-absorbing” front-end design. The report does not even contain an “energy absorption” subsection or discussion, and the scant statements regarding energy absorption scattered in the report are purely conclusory and not rooted in any facts or data. On page 31, for example, it states that “[t]he front end of the Volvo tractor could have been equipped with an airbag collision mitigation system or other energy absorbing designs that would reduce the crush stroke on the struck vehicle.” (APP 0032) On page 18, it asserts that “[t]he front end design was not designed to be energy absorbing and had no energy absorbing parts.” (APP 0019) On page 24, the report states: “The front end of the Volvo tractor could have been equipped with an energy absorbing front end to provide compatibility with other vehicles and absorb a significant portion of the crash energy.” (APP 0025) “Opportunities to apply static or deployable systems were possible.” (*Id.*) On page 29 there is a fleeting reference to “aluminum foam.” (APP 0030)

As with the other two alleged defects, no actual safer alternative energy-absorbing design is described or provided in the report. (APP 0028-32) There is no reference to any testing, modeling (FE or otherwise), simulations, calculations, materials or anything else remotely specific to the facts of this case or crash. (*Id.*) Nothing was produced or disclosed with the

report. Because Friedman's report does not comply with the Rule 26 "completeness" requirement and offers no evidence of either reliability or qualifications on energy-absorbing front ends, his testimony regarding energy-absorption devices or designs should be excluded. *Sierra Club, supra*, at 571.

Friedman's deposition provided little more clarity or substance regarding "energy absorption." He was unable to identify any component of the front end of the subject tractor that is defective. (APP 0102-03) He vaguely stated that it is the "system" – the way that all of the parts are arranged – that is defective, yet he was unable to state how that arrangement ("system") is defective. (*Id.*) Instead, he merely surmised that an undefined "collision mitigation system" is defective. (*Id.*) He provided no risk-utility analysis or any other basis for any conclusion that the tractor's front end is defective or unreasonably dangerous. (*Id.*)

Although Friedman made numerous generic references to potential energy-absorbing technology for which he could provide little more than a vague description, he ultimately admitted that the only two energy-absorbing front end designs he is "offering" as safer alternative designs are: (1) an energy-absorbing FUPD; and (2) a deployable "airbag" system. (APP 0125-26) However, his report and testimony in these matters does not meet the reliability requirement of *Daubert* and should be excluded. "The proper methodology for proposing alternative designs includes more than just conceptualizing possibilities." *Watkins v. Telsmith, Inc.*, 121 F.3d 984, 992 (5th Cir. 1997). A court may exclude testimony regarding proposed alternative designs when there is a lack of testing, particularly when the offering expert agrees that testing is important. *Id.* Friedman's "systems analysis" approach specifically states that it "uses testing." (APP 0005). But his failure to perform testing here shows that Friedman did not even adhere to his own methodology.

a) *Energy Absorbing FUPD*

With regard to the FUPD, Freidman has provided no alternative design with specific characteristics, dimensions, testing or data; instead, his report references papers that discuss FUPD's generally. (APP 0028-33) He admitted that none of the literature or papers he cited in his report tests for this accident. (APP 0105) He also admitted that he did no physical testing of any kind, and the "virtual" (FE) testing he claimed to have performed in this case was only on the "airbags" – no other designs were tested. (APP 0126-27)

Neither his report nor his deposition testimony offer any data, analysis, or even a conclusory allegation of how an energy-absorbing FUPD would have affected this accident. There are no illustrations, measurements, or any other data or analysis of how either the initial impact or any subsequent impacts would have changed. In fact, Friedman acknowledged that the front-end energy-absorbing technology may or may not have changed the speed or velocity of the subsequent impacts and that it was not meant to do that. (APP 0107-08) There is no data or analysis on how the (fatal) collision with the Strick trailer would have changed. He cannot provide any specifics on how those subsequent impacts would change other than a global "it might have changed the kinematics of the vehicles" statement, and, regarding the initial impact, the purely conclusory statement that the "crush would have been dramatically reduced." (APP 0107-08; APP 0126-27)

Friedman provides no testimony or opinions on how his proposed alternative designs for energy-absorbing front ends would have prevented or reduced the injuries in this case. Instead, he simply makes the purely conclusory statement that the "crush would have been dramatically reduced." (APP 0126-27)

b) Airbag System

The Friedman “Volvo report” contains two fleeting and completely vague references to an “airbag collision mitigation system.” (APP 0026 & 32) It provides no information whatsoever regarding such a theoretical “airbag” system: no design information (not even a single diagram or illustration), no specifications, no testing, no calculations, and not even a crude description. It offers no analysis of the facts or data he considered or any techniques or methods he used regarding this conjectural system. There is nothing airbag-related specific to the facts of this case or crash.

The report contained three citations in support of its fleeting “airbag” references: two SAE papers and a footnote referring to Friedman’s very own confidential PowerPoint presentation. (APP 0032) These are also the only references Friedman pointed to in his deposition as support of his “airbag” concept. (APP 0125-26)

The two SAE papers cited refer to potential airbags on the outside of passenger cars to protect the occupants of those vehicles, and have no similarity to the vehicles or accident in this case. (APP 0152-78)

Friedman’s PowerPoint “airbag” presentation was not produced with his report and was not even provided to VGNA until late in his deposition. (APP 0089) During the deposition he first stated that he did not have a copy of the presentation, but later was able to either retrieve or locate it when counsel for VGNA had approximately 40 minutes of VGNA’s allotted four hours of questioning time remaining. (APP 0127-28) Friedman claims to have presented the PowerPoint at an SAE conference in September or October of 2013 – approximately three years after he was retained in this case and mere weeks before his expert designation was due in November 2013, but was unable to provide a date on which it was supposedly presented. (APP 0137) The document is marked “CONFIDENTIAL” in red capitalized letters, and Friedman was

unable to remember if he ever even gave a copy to SAE – but he was sure he never distributed it to anyone other than SAE. (APP 0137-38 & 0179-220) Significantly for the *Daubert* analysis, Friedman intentionally ensured that the PowerPoint had never even been seen by his peers, let alone peer-reviewed. The PowerPoint was clearly created solely for this litigation.

Whatever materials Freidman contemplates making the airbag out of is not described in Friedman’s report and remains a mystery. (APP 0139) Despite the existence of a protective order in this case (under which VGNA has produced much), Friedman refused to identify the material supposedly to be used for the airbag and claimed that it’s “a trade secret.” (APP 0141) When asked what its physical properties were, Freidman simply said, “It’s strong.” (*Id.*) In fact, none of the underlying information for the PowerPoint or the airbag was produced at the deposition, but was allegedly back at Freidman’s office. (*Id.*) As of the date of the filing of this motion, VGNA still has not received any supplemental or additional information regarding the “airbag” system or the PowerPoint. The PowerPoint itself simply shows some pictures and makes statements that are impossible to verify or even inquire about without the underlying information. (APP 0179-220)

The airbag system depicted in the presentation has never been physically created, has never been deployed on the front of a heavy truck, and has never been physically tested or crashed. (APP 0138) There is no risk-utility analysis for the airbag system. (APP 0139) Friedman did not provide any cost information regarding the airbag system either in his report or at his deposition. (*Id.*) The heavy truck to which the “airbag” was supposedly attached in the presentation is not a Volvo and the smaller vehicle is not a 4Runner. (APP 0140-41)

Additionally, although he failed to provide any physical or computer testing of the “airbag” concept, Friedman is still unable to provide any specifics on how an airbag system

would have affected the accident in this case. He simply claimed that the crush damage would have been significantly reduced, but cannot offer any verifiable calculations or illustrations in the change of crush in this accident. (APP 0107-08) He is also unable to provide any detail on how any of the subsequent impacts would have changed. (*Id.*)

Friedman's "airbag" references and testimony fall far short of meeting the reliability requirement of FRE 702 and *Daubert*, and are a clear attempt to subvert expert discovery and offer junk "expert" testimony to the jury.

E. Friedman's Testimony and Opinions on Crash Compatibility Defects and Alternative Designs Should Also be Excluded.

1. Friedman is not qualified under *Daubert* and the Federal Rules to give expert testimony regarding alleged crash compatibility defects or alternative designs.

As discussed above, Friedman is not qualified to give expert testimony regarding front-end design of heavy trucks. *See* Section II.D.1, *supra*. He clearly lacks of any experience with FUPDs – his only purported alternative design other than the sketchy and non-existent "airbag" concept – before or outside of this case. He has never published any papers or research on crash compatibility with heavy trucks. (APP 0058-69) His only claimed "presentation" is the confidential "airbag" PowerPoint that has not been published, peer-reviewed, or disclosed to the public and for which no underlying information or support has been provided.

2. Friedman's opinions on alleged crash compatibility defects and alternative designs are not reliable.

Friedman's "Volvo report" contains a six-page summary of literature regarding "compatibility," but makes no effort at all to distinguish the literature between and among types of crashes or vehicles or apply the literature to the facts of this case. (*See* APP 0028-33) It is simply a literature review. The report states that the Volvo tractor should have had a FUPD, and points to the use of FUPDs on tractors in Europe without stating when or why they were

mandated (or why they have not been mandated in the U.S.). (APP 0033) As discussed above, no actual FUPD design, dimensions or diagram is provided in or with the report, nor is there any discussion of the materials (steel? composite?) that should have been used for a purely conjectural FUPD on the subject tractor. (See APP 0028-0033) There is no reference at all to any case-specific testing, modeling, simulations, calculations or risk-utility or feasibility analysis – and nothing was produced or disclosed with the report. *Id.*

Friedman's deposition testimony offers nothing more. He has no previous experience with a FUPD before or outside this case. He has never created a physical FUPD; never offered any evidence that he has "virtually" created a FUPD as he claims; never actually seen a physical FUPD other than on the road in Europe; never tested an FUPD; and has never even seen tests of FUPD's on conventional heavy trucks like the Volvo tractor. (APP0140)

3. Friedman's opinions on alleged crash compatibility defects and alternative designs are not relevant to this case.

In addition to being unreliable, Friedman's testimony on FUPD designs is irrelevant. Plaintiffs have already fought and lost this battle in their third motion to compel. (Docket #164, pgs. 9-12) The Court previously denied Plaintiffs' "motion to compel responses to Plaintiffs' discovery requests concerning "Volvo's FUPS Information." (Docket #228) This ruling was based on VGNA's relevance objection. (Docket #167, pgs. 10-11) In the briefing and underlying support, VGNA provided the Court with unrefuted evidence that an "override" of the 4Runner by the Volvo tractor did not occur in this case. (APP 0248-49; APP 0261) VGNA additionally pointed the Court to a quintessential example of override in which a heavy truck ended up on top of a minivan. (APP 0261) Not only do VGNA and all of the experts in this case (other than Friedman) agree that no override occurred, but the FARS (Fatality Analysis Reporting System) database created and operated by the National Highway Traffic Safety

Administration (NHTSA) specifically reported that no override of the 4Runner by the Volvo Tractor occurred in this very crash. (APP 0353 & 0362-87) And, Friedman’s recently-disclosed FE materials – his *own work* – that show no override occurring in his FE simulation of the initial impact. (APP 0353 & 0389-96).

F. Friedman’s testimony and opinions on any alleged “radar system” defects and alternative designs should be excluded.

1. No defect pertaining to “ACC” or “AdvBS” has ever even been alleged. Friedman’s testimony and evidence regarding these systems is simply not relevant.

As discussed above, the plaintiffs do not allege – and have *never* alleged – any defect pertaining to Adaptive Cruise Control, Advanced Electronic Braking Systems, or any other radar system (other than CWS) or automatic braking system in this case. Their pleading instead asserts that the tractor was defective due to an “absent or defective collision warning system.”⁶ PLAINTIFFS’ SECOND AM. COMPL. (Docket #113) at ¶58 (emphasis added). ACC and AdvBS are not “collision warning systems.” (APP 0399) Any testimony plaintiffs want to proffer through Friedman regarding either ACC or AdvBS – as opposed to a CWS – should be excluded for the threshold reason that it is not relevant to any cause or claim that has been pleaded.

2. Friedman abandoned any CWS-related theory in favor of an (unpleaded and inadequately disclosed) ACC theory in his deposition.

In addition, Friedman’s opinions and testimony and opinions regarding CWS’s should be excluded because he testified that it is ACC – not CWS – that he is now offering as an alternative design. (APP 0116; APP 0119-20) ACC is not a “collision warning system.” (APP 0399) Friedman has abandoned his CWS theory and (to this day) has not disclosed or provided any basis at all for any opinion regarding how CWS would or might have performed in this case or crash.

⁶ There was no CWS on the subject tractor, so the allegation of a “defective” CWS is a moot allegation.

3. Friedman's report and disclosures are also woefully inadequate and do not satisfy the Federal Rules requirements.

Friedman's report and disclosures regarding CWS, ACC and AdvBS all fall far short of the federal expert report and disclosure requirements. The report contains a one-paragraph discussion of the Eaton VORAD EVT-300 ("EVT-300") system – (*see* APP 0023-24) – a third-party (Eaton) designed and made CWS that was commercially available as an option on Volvo tractors at the time the subject tractor was made.⁷ The report does not contain or refer to anything case-specific regarding the EVT-300 (such as assumptions, distances, velocities, calculations, methodologies, diagrams, illustrations or results) or how it or any other CWS would supposedly have impacted this crash. Nothing was produced or disclosed with the report. The report contains a single one-line reference to Adaptive Cruise Control/ACC, and does the same with Advanced Electronic Braking Systems/AdvBS. As with the EVT-300 "discussion," the report contains absolutely nothing case-specific to either ACC or AdvBS (such as assumptions, distances, velocities, calculations, methodologies, diagrams, illustrations or results) and how either system would have made any difference at all in this crash. Again, nothing was produced or disclosed with the report. The report does not include any statement that the subject tractor was unreasonably dangerous without any of these radar-based systems and contains no risk-utility analysis.

Based on Friedman's failure to include "detailed and complete" opinions in his report and properly disclose any opinions regarding "radar systems" – whether CWS, ACC or AdvBS – or the facts and data he "considered" in reaching those opinions, Friedman's proffered testimony on any or all of the three systems should be excluded.

⁷ The purchaser of the subject tractor did not select this option.

4. Friedman is not qualified under *Daubert* and the Federal Rules to give expert testimony on CWS, ACC or AdvBS.

Other than a vague statement that he worked on a “radar system” 30 to 40 years ago – but cannot remember any specifics regarding that system or his work – Friedman has provided no support that he has any experience in the design, manufacture or functionality of any of the three types of radar systems – CWS, ACC or AdvBS – listed in his report. (APP 0092-93) The only alleged experience he can recall with any detail is some CWS environmental/weather testing of radar systems in Saudi Arabia, which was not in any way testing performance of systems or incidents similar to those alleged in this case. (*Id.*) He has identified no experience relating to ACC or AdvBS. He lacks the qualifications to testify about CWS or other radar systems.

5. Friedman’s opinions and testimony on CWS, ACC and AdvBS are all unreliable and should be excluded under FRE 702 and *Daubert*.

Without waiving any argument that Friedman’s “radar systems” opinions are not relevant and that he lacks the qualifications to proffer expert testimony regarding any of them, his report, opinions and testimony regarding radar systems – whether CWS, ACC or AdvBS – should also be excluded because they are not reliable. The report is not case or crash-specific. Rather, Friedman makes cursory and unsupported statements regarding “radar systems” in general. (*E.g.*, APP 0034) He does not even identify what “radar system” he is referring in these two statements or how he arrived at these conclusory opinions. (*Id.*)

a) Collision Warning Systems (CWS)

Friedman’s testimony on CWS’s is unreliable under FRE 702 and *Daubert*. He performed no case-specific work or calculations to show how any CWS – including the EVT-300, his original putative alternative design – would have performed in this accident or made any difference in this case. At his deposition, he was unable to refute the opinions and conclusions of VGNA’s expert, Tim Cheek, who provided case-specific calculations and conclusions in his

report to show that an EVT-300 CWS on the Volvo tractor would not have affected the outcome of this crash due to its limitations. (APP 0088; APP 0132; *see* APP 0407-25) And, to the extent he even has any CWS opinions regarding the EVT-300, Freidman's opinions are unreliable because he considered and relied on irrelevant and inaccurate information: the materials he referred to at his deposition in support of his testimony regarding Eaton VORAD systems were for the EVT-400 – a newer-generation product that could not have been offered on the subject tractor because it was not even commercially available until after the truck was made in January 2007. (APP 0266-302; APP 0399)

b) Adaptive Cruise Control (ACC)

Friedman also relied on inaccurate, unscientific and unsupported data, information and assumptions in connection with his new-found (post-report) ACC alternative design.

First, any opinion by Friedman that ACC would have prevented or reduced the injuries in this accident is premised on an unsupported assumption that the truck's driver, Charles Moody, was actually was using the cruise control at the time of the accident. (APP 0117) ACC does not function unless the driver has engaged cruise control. (*Id.*; APP 0399 & 448) But Moody has clearly testified that he "knocked off" the cruise control "two and a half, maybe three" miles before the accident site, and he has no recollection of putting it back on. (APP 0311) Plaintiffs' own reconstruction expert, Jeff Vick, testified that he believes the cruise control was off at the time of the accident. (APP 0146) Friedman has not even addressed or explained this most basic assumption.

Second, the meager calculations that Friedman has disclosed regarding "radar systems" – a chart⁸ of undated calculations he disclosed on the second day of his deposition that came from

⁸ The chart is at page 62 of Deposition Exhibit 27. (*See* APP 0343-51)

a notebook in one of the 17 bankers boxes (*see* APP 0314-15; APP 0115-16) – demonstrates that the data and methods he used are incorrect, unsupported and unscientific (and that he is not qualified to opine about these radar-based systems). The chart, seen for the first time by counsel for VGNA at the deposition, purports to show calculations of how ACC – not CWS – would have functioned in different scenarios presumably within the range of the subject accident. (APP 0117) While VGNA believes that these surprise calculations⁹ and any opinions based on them should be excluded based on failure to timely disclose alone, after having had the opportunity to review the information, the chart and calculations show that the data and methods he used are not reliable.

For example, Friedman uses a deceleration rate for “cruise braking” of 0.1 g – a number that has no scientific basis.¹⁰ In fact, an independent study conducted on the EVT-300 in a Volvo tractor showed the peak deceleration of the EVT-300 to be 0.06 g’s *for the tractor only*. (APP 0322-23; APP 0325-26) Adding a loaded trailer such as the one Moody was pulling would reduce the deceleration rate of the ACC significantly – to a range of 0.03 g’s or lower. (APP 0326; APP 0399) An ACC on the subject tractor could not have decelerated at the 0.1 g used by Friedman in his calculations; Friedman was off by a factor of 3 for a critical calculation. (APP 0399)

Moreover, after reviewing the calculations, it is clear that Friedman is not calculating the effects of ACC only. He has added an additional variable in the column “vehicle braking” which

⁹ When asked why he failed to put any calculations in his report, Friedman states that they were “referred to” in the sweeping statement “would have had a high probability of safe outcome equipped with a radar system.” (APP 0115) There were no numbers in the report because, despite having been retained three years earlier, “it was a very rushed time.” (*Id.*)

¹⁰ Additionally, the column “cruise braking” is somewhat misleading as the system available did not have the capability to automatically apply the brakes. (APP 0399) The only effect the EVT-300 could have was to reduce the throttle (*i.e.*, reduce fuel to the engine) and engage the engine retarder. (*Id.*)

is explained as braking Moody would have performed “upon perception” of the reduction in speed due to ACC engagement. (APP 0117) However, here Friedman makes three more incorrect and unfounded assumptions: (1) he assumes that the ACC would in fact engage the engine retarder and begin decelerating the vehicle; (2) he assumes that Moody would have reacted immediately to such deceleration and apply the service brakes; and (3) he assumes that Moody’s reaction time would be 1.5 seconds, a number that is not supported by any scientific literature or studies. (APP 0117; APP 0349; *see* APP 0399)

Friedman’s first incorrect assumption is fatal. He ignores on-point research demonstrating that the ACC system is not designed to – and, in fact, cannot – detect and respond to stopped or slow-moving vehicles such as the Greenes’ 4Runner. One study specifically tested the EVT-300 ACC on a Volvo tractor to test its performance limits in response to a slower moving vehicle. (APP 0316-28) That study showed that when a vehicle equipped with the EVT-300 was traveling approximately 65 mph, ACC did not engage when it encountered a vehicle traveling approximately 30 mph. (APP 0322-23; APP 0325-26) These numbers are important because the very example Friedman uses in his deposition is run “2b” from his calculations. (APP 0117; APP 0315) What he didn’t say is that his example shows the ACC to begin engaging when the 4Runner is moving 27.7 mph (40.69 ft/s) and the Volvo tractor is traveling 63.9 mph (93.79 ft/s) – almost the exact same range that the real-world testing shows *does not* engage the EVT-300 ACC. (APP 0349) In other words, the literature on which Friedman must rely in the absence of actual testing or personal experience demonstrates unequivocally that ACC does not work on stopped or slowing vehicles – the exact situation that this accident involved.¹¹

¹¹ The Intelligent Vehicle Initiative Field Operational Test Program that Friedman refers to frequently also found that no significant ACC deceleration levels were found in driving situations which would

Friedman's second and third assumptions have no scientific basis either. He has offered no support to say with any level of scientific certainty or accuracy whether a truck driver in a fully loaded heavy truck would have responded immediately to the ACC engagement by applying the service brakes. Friedman himself has no background in human factors and cannot opine as to the perception or reaction time of a heavy truck driver to the engagement of ACC. *See Zuzula v. ABB Power T&D Co.*, 267 F.Supp.2d 703, 713 (E.D. Mich. 2003) (holding that an electrical engineer's testimony regarding fault of parties was properly excluded because "he [had] presented no qualifications as safety engineer, an expert on *human factors*, or being knowledgeable as to industrial training or plant safety") (emphasis added). Since he is unable to testify as to whether Moody would have applied the brakes in response to ACC engagement – much less that the cruise control was *even on* at the time of the accident – Friedman is certainly in no position to propound a perception-reaction time of 1.5 seconds.

Finally, the speeds at which ACC supposedly engages in the "scenarios" set forth in Friedman's chart do not represent or reflect the speeds used by any of the reconstruction experts in the case – including Plaintiffs' own reconstructionist, Jeff Vick. Nor do they reflect Moody's testimony that he was traveling at highway speeds of approximately 65 to 70 mph, turned around, and saw traffic had stopped in front of him. (APP 0094; APP 308-09) He simply created several irrelevant scenarios to support a conclusion that ACC would have affected this accident.

Because Friedman's ACC opinions and testimony are based on unreliable and unsupported data and methods, his ACC testimony should be excluded under FRE 702 and *Daubert*.

potentially lead to a collision. (APP 0337; APP 0341) They assessed this as being due to the fact that ACC was designed specifically to maintain a consistent following interval – not to respond to a situation that would potentially lead to a collision. (*Id.*)

c) Advanced Electronic Braking Systems (AdvBS)

As discussed above, Friedman abandons both the CWS and AdvBS theories of liability. (APP 0116; APP 0119-20) He makes no attempt at even a conclusory AdvBS-related opinion – let alone case-specific testing or calculations – regarding how AdvBS would have performed in this accident or changed the collisions. Because Friedman has provided nothing at all regarding this allegation, his testimony should be excluded.

III. CONCLUSION AND PRAYER

Plaintiffs’ expert Keith Friedman does not possess the qualifications to offer expert testimony regarding design or causation of heavy truck brakes or brake systems, heavy truck energy-absorption, heavy truck crash compatibility or heavy truck radar systems. His opinions – some of which are well outside any pleaded defect – fail the reliability and relevance requirements of FRE 702 and Daubert. His “preliminary” report and disclosures do not satisfy the Federal Rule expert disclosure requirements. For all the reasons set forth herein, Friedman’s report, testimony and evidence should be excluded. VGNA prays for all other relief to which it is entitled.

Respectfully submitted,



Randy Howry
State Bar No. 10121690
rhowry@howrybreen.com
John Carlson
State Bar No. 00790426
jcarlson@howrybreen.com

HOWRY BREEN & HERMAN, LLP
1900 Pearl Street
Austin, Texas 78705
Phone: (512) 474-7300
Fax: (512) 474-8557

**ATTORNEYS FOR DEFENDANT VOLVO
GROUP NORTH AMERICA, LLC f/k/a
VOLVO TRUCKS NORTH AMERICA**

CERTIFICATE OF SERVICE

I do hereby certify that on March 17, 2013, a true and correct copy of the above and foregoing was forwarded to all counsel of record in accordance with the Federal Rules of Civil Procedure by electronic service through the court's ECF system in compliance with Federal Rules of Civil Procedure 5(b)(2)(E) and 5(b)(3).

A handwritten signature in black ink, appearing to read "Randy Howry". The signature is written in a cursive, flowing style.

Randy Howry